

## CLAIMS

What is Claimed is:

- 1     1.     An alignment device comprising:  
2         a.     a first transmitter and a first receiver for transmitting positioning signals from a  
3               positioning object and for receiving alignment signals from a target object,  
4               respectively, when the positioning object and the target object are aligned;  
5         b.     a second transmitter and a second receiver for transmitting the alignment signals  
6               and for receiving the positioning signals; and  
7         c.     an indicator for indicating when the positioning object and the target object are  
8               aligned.
- 1     2.     The alignment device of claim 1, wherein the first transmitter is a laser for generating  
2             laser light positioning signals and the second receiver is a photo-sensor for detecting the  
3             laser light positioning signals.
- 1     3.     The alignment device of claim 2, further comprising a first optical configuration for  
2             projecting the laser light into an elongated laser beam.
- 1     4.     The alignment device of claim 3, further comprising a second optical configuration for  
2             filtering background light from the second receiver.
- 1     5.     The alignment device of claim 1, wherein the second transmitter is a radio-frequency  
2             generator for generating radio alignment signals and the first receiver is a radio-frequency  
3             receiver for detecting the radio frequency alignment signals.
- 1     6.     The alignment device of claim 1, wherein the indicator comprises a display element.
- 1     7.     The alignment device of claim 6, wherein the display element is configured to generate  
2             light.
- 1     8.     The alignment device of claim 1, wherein the first transmitter and the first receiver are

2 configured to detachably couple to the positioning object.

1 9. The alignment device of claim 1, wherein the second transmitter and the second receiver  
2 are configured to be removably positioned near the target object.

1 10. A system for tracking a trajectory of an object relative to a target area, the system  
2 comprising:

- 3 a. means for generating positioning signals from the object in a direction  
4 corresponding to the trajectory of the object;
- 5 b. means for detecting the positioning signals when the trajectory of the object is  
6 laterally aligned with the target area;
- 7 d. means for generating the alignment signals when the positioning signals are  
8 detected; and
- 9 c. means for detecting the alignment signals.

1 11. The system of claim 10, wherein the means for generating positioning signals comprises a  
2 laser device.

1 12. The system of claim 11, wherein the laser device is configured to emit an elongated laser  
2 beam.

1 13. The system of claim 12, wherein the means for detecting the positioning signals is  
2 configured to detect the axial alignment of the object.

1 14. The system of claim 10, wherein the means for detecting the positioning signals  
2 comprises a photo-detector device.

1 15. The system of claim 14, wherein the photo-detector device is configured to selectively  
2 detect laser light.

1 16. The system of claim 10, wherein the means for generating the alignment signals  
2 comprises a radio-frequency transmitter.

- 3 17. The system of claim 16, wherein the means for detecting the alignment signals comprises  
4 a radio frequency receiver.
- 1 18. The system of claim 10, further comprising means to communicate when the trajectory of  
2 the object is laterally aligned with the target.
- 1 19. The system of claim 18, wherein the means to communicate comprises a light display  
2 element.
- 1 20. A positioning and alignment system comprising:  
2 a. a target unit for positioning near a target; and  
3 b. a positioning unit for coupling to an object, wherein the positioning unit  
4 communicates a positioning signal to the target unit and the target unit  
5 communicates an alignment signal to the positioning unit when the positioning  
6 unit and the target unit are in alignment.
- 1 21. The positioning and alignment system of claim 20, wherein the positioning unit is  
2 configured to illuminate light when the target unit communicates the alignment signal to  
3 the positioning unit.
- 1 22. The positioning and alignment system of claim 20, wherein the positioning unit  
2 comprises an optical transmitter for communicating with the target unit.
- 1 23. The positioning and alignment system of claim 20, wherein the target unit comprises a  
2 radio transmitter for communicating with the positioning unit.
- 1 24. The positioning and alignment system of claim 20, wherein the positioning unit is  
2 configured to couple to a golfing putter and the target unit is configured to be positioned  
3 near a golf ball target, wherein the positioning and alignment system monitors positioning  
4 and alignment of a golfer's putting trajectory.